SKILLSHEET 7.4

Graphing linear equations

To plot a graph whose equation or rule is given, follow these steps.
Step 1 Set up a table of values and use the given rule to fill it in.
Step 2 Draw a set of axes.
Step 3 In the table, each pair of corresponding values of x and y gives the coordinates of a point of the graph. Plot these points on the set of axes and join them with a straight line.

WORKED EXAMPLE

Draw up a table of values and plot the graph for the following rule.
$y = x + 1$

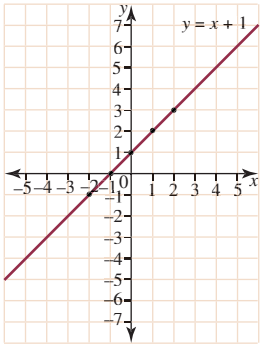
THINK

1. Set up a table of values, including some negative and positive values of x, and 0. Fill in the table by substituting the values of x into the given rule and calculating the corresponding value of y.
   When $x = -2$, $y = -2 + 1 = -1$.
   When $x = -1$, $y = -1 + 1 = 0$.
   When $x = 0$, $y = 0 + 1 = 1$.
   When $x = 1$, $y = 1 + 1 = 2$.
   When $x = 2$, $y = 2 + 1 = 3$.
2. Draw a set of axes (Cartesian plane).
3. Each pair of corresponding values of x and y in the table gives coordinates of points belonging to the graph. These points are $(-2, -1)$, $(-1, 0)$, $(0, 1)$, $(1, 2)$ and $(2, 3)$. Plot these points on the set of axes.
4. Join the points to form a straight line and label the graph.

WRITE/DRAW

$y = x + 1$

x	-2	-1	0	1	2
y	-1	0	1	2	3

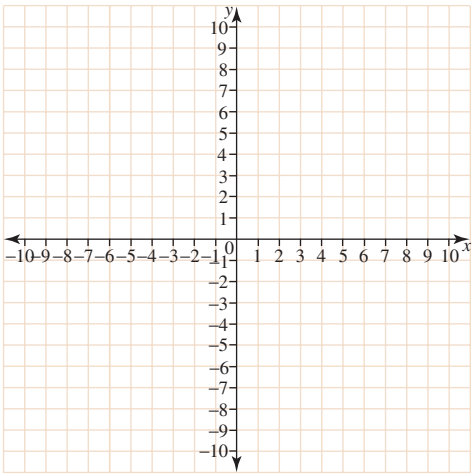


Try these

Draw up a table of values and plot the graph for each of the following rules.

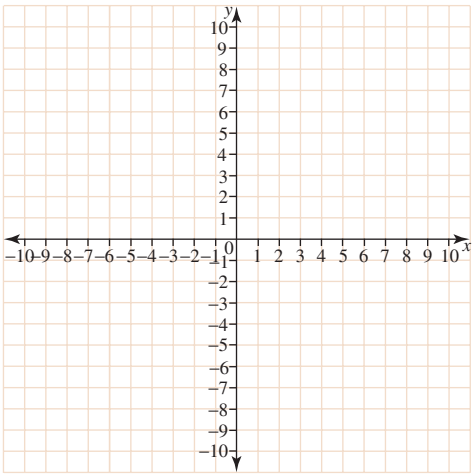
1 $y = x - 1$

x	−2	−1	0	1	2
y	−3	−2	−1	0	1



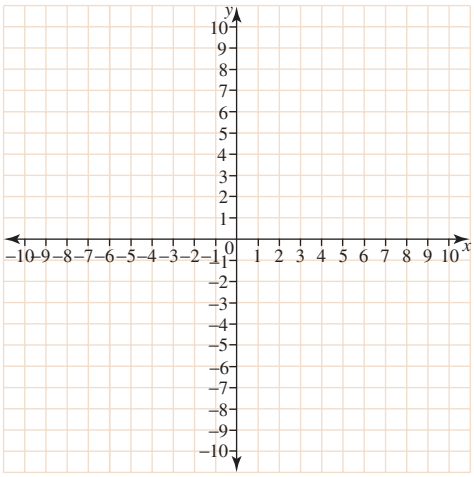
2 $y = x + 2$

x	−2	−1	0	1	2
y	0		2		4



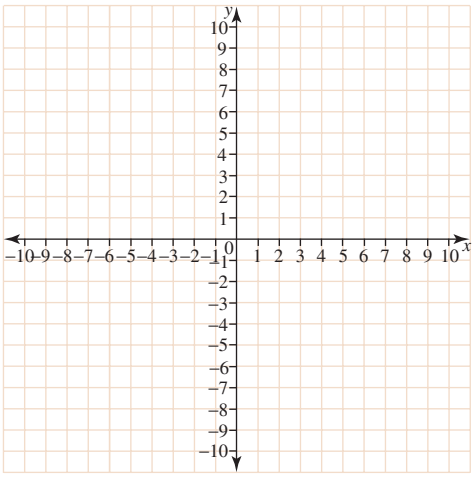
3 $y = -2x$

x	−2	−1	0	1	2
y					



4 $y = 2x - 3$

x					
y					

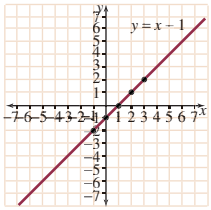


SKILLSHEET — ANSWERS

SKILLSHEET 7.4

Graphing linear equations

1



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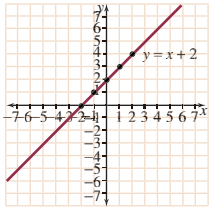

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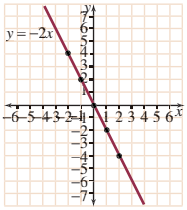

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